SUMMARY DATA FOR CASE 1D

This section contains the following economic data for case 1D:

- Capital Investment and Revenue Requirement Summary
- Total Plant Cost

CAPITAL INVESTMEN	T & REVENUE	REQUIREME	NT SUMMARY		
TITLE/DEFINITION					
Case:	Natural Gas	Combined Cyc	lo-1v1"H"		
Plant Size:		(MW,net)	HeatRate:	6 266	(Dtu/JAMb)
		(IVIVV, Net)			(Btu/kWh)
Primary/Secondary Fuel(type):	Natural Gas	,	Cost:		(\$/MMBtu)
Design/Construction:		(years)	BookLife:		(years)
TPC(Plant Cost) Year:	1999	(Dec.)	TPI Year:	2000	(Jan.)
Capacity Factor:	65	(%)	CO ₂ Removed:		(tons/year)
CAPITAL INVESTMENT			\$x1000		\$/kW
Process Capital & Facilities			152,299		396.
Engineering(incl.C.M.,H.O.& Fee)			9,138		23.
Process Contingency					
			5,172		13.
Project Contingency			24,141		62.8
TOTAL PLANT COST(TPC)			\$190,749		496.2
TOTAL CASH EXPENDED		\$190,749	1		
AFDC		\$10,166			
TOTAL PLANT INVESTMENT(TPI)		Ψ,0,100	\$200,916		522.0
Royalty Allowance					
Preproduction Costs			5,833		15.2
Inventory Capital			496		1.3
Initial Catalyst & Chemicals(w/equip.)			430		1.0
Land Cost			164		0.4
TOTAL CAPITAL REQUIREMENT(TCF	₹)		\$207,409		539.5
				and the second section of the second	
OPERATING & MAINTENANCE COSTS (2000)	<u>Dollars)</u>		\$x1000		\$/kW-yr
Operating Labor			1,720		4.5
Maintenance Labor			1,604		4.2
Maintenance Material			2,406		6.3
Administrative & Support Labor			<u>831</u>		2.2
TOTAL OPERATION & MAINTENANCE	E		\$6,560		17.1
FIXED O & M				10.81	\$/kW-yr
VARIABLE O & M				0.11	¢/kWh
CONSUMABLE OPERATING COSTS less Fuel	(2000 Dollars)	\	\$x1000		4/L/M/h
Water	(2000 Dullais)	L	228		¢/kWh 0.01
Chemicals					
			258		0.01
Other Consumables Waste Disposal					
	OOTO.		A 400		
TOTAL CONSUMABLE OPERATING C	0515		\$486		0.02
BY-PRODUCT CREDITS (2000 Dollars)					
FUEL COST (2000 Dollars)			\$37,624		1.72
PORTION COST CHARACT		Levelized	(Over Book Lif		
PRODUCTION COST SUMMARY		\$/ton CO ₂		¢/kWh	
Fixed O & M			10.8/kW-yr	0.19	
Variable O & M				0.11	
Consumables				0.02	
By-product Credit					
Fuel				1.72	
TOTAL PRODUCTION COST	-		-	2.04	
EVELIZED CARRYING CHARGES(Capital)	TO THE PARTY OF TH		74 E/L\A1	1.31	
-1 VAULTIUM AUVUMES(Ashirai)			74.5/kW-yr	1.31	

ESTIMATE BASIS/FINANCIAL CRITERIA f	or REVENUE REQUIREMENT CALCULATIONS	
GENERAL DATA/CHARACTERISTICS		
Case Title:	Natural Gas Combined Cycle-1x1"H"	10 to
Unit Size:/Plant Size:	384.4 MW,net 384.4 MWe	
Location:	East-West Region	
Fuel: Primary/Secondary	Natural Gas	
Energy From Primary/Secondary Fuels	6,366 Btu/kWh Btu/kW	/h
Levelized Capacity Factor / Preproduction(equivalent m	onths): 65 % 1 months	s
Capital Cost Year Dollars (Reference Year Dollars):	1999 (December)	
Delivered Cost of Primary/Secondary Fuel	2.70 \$/MBtu \$/MBtu	1
Design/Construction Period:	2.5 years	
Plant Startup Date (1st. Year Dollars):	2000 (January)	
Land Area/Unit Cost	100 acre \$1,644 /acre	
FINANCIAL CRITERIA		7
Project Book Life:	20 years	
Book Salvage Value:	%	
Project Tax Life:	20 years	
Tax Depreciation Method:	Accel. based on ACRS Class	
Property Tax Rate:	1.0 % per year	
Insurance Tax Rate:	1.0 % per year	
Federal Income Tax Rate:	34.0 %	
State Income Tax Rate:	%	
Investment Tax Credit/% Eligible	% %	
Economic Basis:	Over Book LifeConstant Dollars	
Capital Structure Common Equity Preferred Stock Debt Weighted Cost of Capital:(after tax)	% of Total Cost(%) 45 12.00 10 8.50 45 9.00 8.76 %	
	Over Book Life 1999 to 2000 eneral % per year % per y Fuel % per year % per y Fuel % per year % per	year

Client: Project:	EPRI/DOE VISION 21 INNOVATIVE POWEF	EPRI/DOE VISION 21 INNOVATIVE POWER CYCLES TOTAL DE	CLES DI ANT	SION 21 POWER CYCLES TOTAL DIANT COST CHAMADO	VAMADV		E	Report Date:	12-Jul-2000	
Case: Plant Size:	Natural Gas C 384.4	I O I ALL FLAIN Natural Gas Combined Cycle-1x1"H" 384.4 MW,net Est	rLAINI cle-1x1"H" Estim	LNI COSI SOLVILLII. 'H' Estimate Type: Conceptual	MIMIAK Y ceptual	Cos	Cost Base (Dec)	1999	(\$x1000)	
Acct Item/Description	Equipment Cost	Material Cost	Labor Direct Ir	or Sales Indirect Tax	Bare Erected Cost \$	Eng'g CM H.O.& Fee	Continge	encies Project	TOTAL PLANT COST	COST \$/kW
1 COAL & SORBENT HANDLING										
2 COAL & SORBENT PREP & FEED										
3 FEEDWATER & MISC. BOP SYSTEMS	3,352	2,835	4,563	319	\$11,069	664		2,742	\$14,475	38
4 GASIFIER & ACCESSORIES 4.1 Gasifier & Auxiliaries 4.2 High Temperature Cooling 4.3 Recycle Gas System 4.4-4.9 Other Gasification Equipment SUBTOTAL 4										
5A GAS CLEANUP & PIPING										
5B CO, REMOVAL & COMPRESSION										
6 COMBUSTION TURBINE/ACCESSORIES 6.1 Combustion Turbine Generator 6.2-6.9 Combustion Turbine Accessories SUBTOTAL 6	47,902	320 320	3,570 529 4,099	250 37 287	\$51,722 \$886 \$52,608	3,103 53 3,156	5,172	6,000 282 6,281	\$65,997 \$1,221 \$67,218	172 3 175
7 HRSG, DUCTING & STACK 7.1 Heat Recovery Steam Generator 7.2-7.9 HRSG Accessories, Ductwork and Stack SUBTOTAL 7	13,986	281 281	5,745 402 6,147	402 28 430	\$20,133 \$711 \$20,844	1,208 43 1,251		2,134 226 2,360	\$23,476 \$980 \$24,455	63
8 STEAM TURBINE GENERATOR 8.1 Steam TG & Accessories 8.2-8.9 Turbine Plant Auxiliaries and Steam Piping	12,840 4,028 <i>16,868</i>	370 370	2,813 4,448 7,261	197 311 508	\$15,849 \$9,158 \$25,007	951 549 1,500		1,680 1,725 3,405		84 30 87
9 COOLING WATER SYSTEM	3,486	2,799	4,701	329	\$11,315	629		2,381	\$14,375	37
10 ASH/SPENT SORBENT HANDLING SYS										
11 ACCESSORY ELECTRIC PLANT	3,955	1,968	7,129	499	\$13,551	813		2,478	\$16,842	44
12 INSTRUMENTATION & CONTROL	2,010	253	2,459	172	\$4,893	294		200	\$5,893	15
13 IMPROVEMENTS TO SITE	1,143	621	4,326	303	\$6,392	384		2,033	\$8,808	23
14 BUILDINGS & STRUCTURES		2,389	3,954	277	\$6,620	397		1,754	\$8,772	23
TOTAL COST	\$92,701	\$11,835	\$44,638	\$3,125	\$152,299	\$9,138	\$5,172	\$24,141	\$190,749	496

Client: Project:	EPRI/DOE VISION 21 INNOVATIVE POWEF	EPRI/DOE VISION 21 INNOVATIVE POWER CYCLES	CLES					Report Date:	12-Jul-2000	
Case: Plant Size:	TOTAL PLAN Natural Gas Combined Cycle-1x1*H* 384.4 MW net	TOTAL Gas Combined Cyc	TOTAL PLANT COST SUMMARY ombined Cycle-1x1"H When the setting of the Concentral of	NT COST SUMMAH. H. Estimate Type: Conceptual	IMMARY	č	(cot) costs	1000	(000)	
					- Copies			666	(0001 ve)	
No. Item/Description	Equipment	Material	Labor Direct Ir	ndirect	Sales Bare Erected Tax Cost \$	d Engig CM H.O.& Fee	Contingencies Process Proje	encies Project	TOTAL PLANT COST	COST \$/kW
1.1 Coal Receive & Unload 1.2 Coal Stackout & Reclaim 1.3 Coal Stackout & Reclaim 1.3 Coal Corveyors & Yd Crush 1.4 Other Coal Handling 1.5 Sorbent Receive & Unload 1.6 Sorbent Rackout, Storage & Reclaim 1.7 Sorbent Conveyors 1.8 Other Sorbent Handling 1.9 Coal & Sorbent Handling 1.9 Coal & Sorbent Handling 1.9 Coal & Sorbent PREP & FEED 2.1 Coal Crushing & Diving 2.2 Prepared Coal Storage & Feed 2.3 Coal & Sorbent Feed System 2.4 Misc.Coal Prep & Feed 2.5 Sorbent Prep Equipment 2.6 Sorbent Sorage & Feed 2.7 Sorbent Injection System 2.8 Booster Air Supply System 2.9 Coal & Sorbent Feed Foundation 2.9 Coal & Sorbent Feed Foundation 3.1 FeedwaterSystem 3.2 Water Makeup & Pretreating 3.3 Other Feedwater Subsystems 3.4 Service Water Systems 3.5 Cher Boiler Plant Systems 3.5 Other Boiler Plant Systems 3.6 FO Supply Sys & Nat Gass 3.7 Waste Treatment Equipment 3.8 Misc. Power Plant Equipment 3.8 Misc. Power Plant Equipment 4.1 Gasifier & Auxilianes 4.1 Gasifier & Auxilianes 4.2 High Temperature Cooling 4.3 Recycle Gas System 4.4 Booster Air Compression 4.5 Misc. Gasification Equipment 4.6 Other Gasification Equipment 4.8 Major Component Higging	1. 2. 203 203 511 114 606 153 30, 43, 43, 42. w/4.184.2	1,773 211 191 191 245 245 288 288 288 35,835	1,386 170 254 1,246 449 398 260 398 260 398 \$4,563	97 112 118 118 119 4319	\$4,167 \$406 \$974 \$1,332 \$867 \$583 \$583 \$1,069			884 129 206 207 537 184 186 333 \$2,742	\$5,301 \$560 \$1,239 \$2,328 \$1,103 \$1,103 \$1,445 \$1,4475	
	4.									

	Client: Project:	EPRI/DOE VISION 21 INNOVATIVE POWER CYCLES	SION 21 POWER CY	CLES					Report Date:	12-Jul-2000	
	Case: Plant Size:	TOTAL PLAN Natural Gas Combined Cycle-1x1*H* 384.4 MW,net	TOTAL Gas Combined Cyc 384.4 MW,net	TOTAL PLANT COST SUMMARY ombined Cycle-1x1'H' W,net Estimate Type: Conceptual	NT COST SUMMAH. Estimate Type: Conceptual	IMARY ptual	s _o ၁	Cost Base (Dec)	1999	(\$x1000)	
Acct	ltem/Description	Equipment	Material	q.		Sales Bare Erected Eng'g CM	Eng'g CM	Contingencies	encies	TOTAL PLANT COST	COST
	IIONA IDESCRIPTION	Cost	1802	Direct	Indirect lax	Cost \$	H.O.& Fee	Process	Project	S	\$/k₩
5A GA	GAS CLEANUP & PIPING										
5A.1 Ga	5A.1 Gas Desulfunzation(Trans.Reactor)										
5A.2 Sul	5A.2 Sulfur Recovery (Sulfator Sys.) 5A.3 Chloride Guard										
5A.4 Par	5A.4 Particulate Removal										
5A.5 Blo	5A.5 Blowback Gas Systems 5A 6 Firel Gas Diving										
5A.9 HG	5A.9 HGCU Foundations										
	SUBTOTAL 5A										
58 50	CO, REMOVAL & COMPRESSION										
5B.2 CO	58.2 CO; Compression & Drving										
	SUBTOTAL 5B										
	COMBUSTION TURBINE/ACCESSORIES	· ••					-				
6.1 Cor				3,570	250	\$51,722	3,103	5,172	6.000	\$65.997	172
6.2 Co	cessories	w/6.1	*	w/6.1	_					•	
6.3 Cor	6.3 Compressed Air Piping	•			-						
6.9 Co	Compusition Lumine Foundations	\$47,000	350	529	37	\$886		1	282	\$1,221	8
7 HR	HRSG, DUCTING & STACK		0254	660,44	/974	\$52,608	\$3,156	\$5,172	\$6,281	\$67,218	175
7.1 Hea	Heat Recovery Steam Generator	13,986		5,745	402	\$20,133	1,208		2,134	\$23,476	61
7.2 HR	HRSG Accessories										
7.4 Stack	Ductwork										
7.9 HR	HRSG, Duct & Stack Foundations		281	402	28	\$711	43		900	\$080	ď
	SUBTOTAL 7.	\$13,986	\$281	\$6,147	\$430	\$20,844	\$1,2		\$2,360	\$24,455	64
	STEAM TURBINE GENERATOR										
8.1 Ste	Steam 1G & Accessones Turbine Plant Auxiliaries	12,840		2,813 275	197	\$15,849	951	-	1,680	\$18,480	₽ 1
8.3 Cor	Condenser & Auxiliaries	2 171		881	2 6	43 114			9 66	43 634	- c
8.4 Ste	Steam Piping	1,776		2,287	9 6	\$4,222			395	\$5,371	y 1
8.9 TG	TG Foundations		370	1,005	20	\$1,446			460	\$1.992	2
	SUBTOTAL 8.	\$16,868	\$370	\$7,261	\$508	\$25,007	\$1,5		\$3,405	\$29,912	78
	COOLING WATER SYSTEM										
	Cooling Towers	1,653		538	38	\$2,229	_		236	\$2,599	7
9.2 CIE	Circulating Water Fumps	41/		<u> </u>	4 (\$480			51	\$260	-
2.5	Circ.Water System Auxilianes	131	•	8 ¥	N 6	\$160			17	\$187	0
0.4 CE	Make in Mater Surfer	934 +	058.	660	8 8	42,781			280	\$3,538	5 7 (
96.00	Component Cooling Water Sys	118	141	154	- 30	\$2,530 \$4.54	20.		25.0	\$3,226	Σ •
20 0.0 21.0	Circ Water System Foundations	2	427	1847	- 65	424¢			S S	04040	-
25	SIBTOTAL	¢3 486	49 700	100,1	6330	\$2,704 \$44.34E	•		000	43,720	2 [
			45,100	10/44	9353	010,116	2010		\$2,381	\$14,375	

Part Size Part		Client: Project:	EPRI/DOE VISION 21 INNOVATIVE POWER CYCLES TOTAL PLA	SION 21 POWER CY TOTAL	CLES PLANT (ION 21 FOTAL PLANT COST SUMMARY	IMARY		Report Date:	12-Ju	I-2000 10:55 AM	
Control Equipment Equipment Equipment Material Libbor Sales Bare Encode Grost Cost Cost Direct Indirect Tax Cost Process Project Cost Cost Cost Direct Indirect Tax Cost Process Project Cost Cost Cost Direct Indirect Tax Cost Process Project Cost		Case: Plant Size:	Natural Gas C 384.4	combined Cy MW,net	rcle-1x1"H" Estima	ite Type: Conce	eptual	Cost Bas		(\$×1000)		
A SEMBERYT SORBENT HANDLING SYS 10.2 Gastland risk Deginesionation 10.2 Gastland risk Deginesionation 10.3 Gastland risk Deginesionation 10.3 Gastland risk Deginesionation 10.4 Mile Transcript Engineeri 10.5 Ober Act An Perceive Engineeri 11.5 Semicy Engineeri 11.5 S	Acct No.	Item/Description	Equipment Cost	Material Cost	Labor Direct I	direct	Bare Erected Cost \$	Eng'g CM (Contingencies cess Project	1	TOTAL PLANT COST	LS≥
ACCESSONT ELECTRIC PLANT 471 616 4.3 51,130 68 120 55 10 57,130 610 51 150	10.1 10.2 10.3 10.3 10.5 10.5 10.6 10.7	ASH/SPENT SORBENT H Gasifier Ash Pemoval Gasifier Ash Depressurizat Cleanup Ash Depressurizat Cleanup Ash Depressurizat High Temperature Ash Pig Other Ash Recover Equip Ash Storage Silos Ash Transport & Fee Equ Misc. Ash Handling Equipr Ash/Spent Sorbent Founda										
113 Switch pergage & Monor Control 567	11.1	ACCESSORY ELECTRIC PLANT Generator Equipment Station Service Equipment	471		616 55	43	\$1,130	68 31	2";	€9	\$1,317 \$605	600
1.6 Protective Equipment 69 296 1,312 92 54,449 173 230 1,312 18 54,449 19 230 230 1,312 18 54,449 19 230 230 1,312 18 54,449 19 230	11.3	Switchgear & Motor Control Conduit & Cable Tray	295			10 241	\$4,450	43 267	- 6		\$5,660	νtoα
1.17 Standby Equipment 189 89 6 2,402 140 355 141 141 141 141 142 142 142 142 142 143 144 143 144 14	11.5	Wire & Cable Protective Equipment	,			26 62 67	\$1,449	87 78 5	¥ Xi °		\$1,766 \$1,766	- CJ C
11.5 Electrical Foundations Subrotal Library Subrotal Foundations Subrotal Foundations Subrotal Foundations Subrotal Library Subrota	11.7	Standby Equipment Main Power Transformers	2,388		,	o ယ င <mark>ှ</mark>	\$2,482	149	` ₩ ∓		\$3,026	- αο -
INSTRUMENTATION & CONTROL INSTRUMENTATION & CONTROL Instruction & Control Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels & Hacks (L.5. Signal Processing Equipment (Control Boards, Panels (L.5. Signal Processing Equipment (Control Equ	11.9	Electrical Foundations	\$3.955			\$499	\$13,551	\$813	\$2,47		16,842	4
1.2.7 Computer & Accessories 2.5.3 1,136 79 \$1,468 88 311 2.2.8 Instrument Wining & Tubing 1,864 1,191 83 \$3,129 188 372 1.2.9 Other L& C Equipment SUBTOTAL 12 \$2,010 \$25.3 \$2,459 \$172 \$1,96 \$100 1.3. Sile Preparation \$60 989 69 \$1,618 \$7 \$14 \$1,603 \$112 \$1,618 \$2,033 \$14 \$1,603 \$112 \$1,618 \$2,033 \$14 \$1,603 \$112 \$1,618 \$1,71 \$909 \$14 \$1,143 \$1,143 \$1,603 \$112 \$1,618 \$2,033 \$14 \$2,033 \$14 \$2,033 \$14 \$2,033 \$14 \$2,033 \$1,143	25.25.25.25.25.25.25.25.25.25.25.25.25.2		w/12.7		>	თ	\$296	18	Ū		\$377	
MPROVEMENTS TO SITE	12.7 12.8 12.9	₽.		•		79 83 \$172	\$1,468 \$3,129 \$4,893	.	ო რ .წ		\$1,867 \$3,648 \$5,893	ი ლ
BUILDINGS & STRUCTURES \$1,143 \$621 \$4,326 \$303 \$0,392 \$100 \$1,143 \$61 \$2,249 \$10 \$1,000 \$2,289 \$160 \$3,457 \$207 \$16 \$16 \$1,000 \$1,000 \$2,289 \$160 \$2,3457 \$207 \$16 <td>13 13.1 13.2 13.3</td> <td>IMPROVEMENTS TO SIT Site Preparation Site Improvements Site Facilities</td> <td></td> <td>•</td> <td></td> <td>121 69 112</td> <td>\$1,917 \$1,618 \$2,858</td> <td></td> <td>დ ი ი ა</td> <td></td> <td>\$2,641 \$2,229 \$3,938</td> <td>, o t &</td>	13 13.1 13.2 13.3	IMPROVEMENTS TO SIT Site Preparation Site Improvements Site Facilities		•		121 69 112	\$1,917 \$1,618 \$2,858		დ ი ი ა		\$2,641 \$2,229 \$3,938	, o t &
Combustion Turbine Area 1,22 1 10 \$3.457 207 916 Steam Turbine Building 2,289 160 \$3.457 207 916 Administration Building 265 307 21 \$594 36 157 Circulation Water Pumphouse 224 349 22 45 16 45 Circulation Water Pumphouse 224 349 24 \$499 30 132 Machine Shop 372 382 27 \$18 47 207 Other Buildings & Str. 45 55 4 \$104 6 27 Waste Treating Building & Str. \$2,389 \$3,954 \$277 \$6,520 \$1,754	4	SUBTOTAL 13 BUILDINGS & STRUCTURES		•		2	4041	·			\$319	
See 224 349 24 \$5169 10 45 158 1224 349 24 \$4598 36 158 132 372 382 27 \$5104 47 207 207 316	14.1			1,90¢ 26¢		160 21	\$3,457 \$3,457 \$594		o 		\$4,580	-
Signature 1.00 State 1	14.4	Circulation Water Pumphouse		30.00		24	\$169 \$598		***		\$795	
HTOTAL 14 \$2,389 \$3,954 \$277 \$6,620 \$397 \$1,754	14.6	Water I reatment buildings Machine Shop		23.6			\$499		± 2		\$661 \$1,035	3 12
ביים ביים ביים ביים ביים ביים ביים ביים	14.6	Warehouse Other Buildings & Structures Waste Treating Building & Str.		4 9 9		9 7769	\$104		\$1,7		\$137 \$237 \$8,772	23 - 0
*** ***		SUBIOIALIA							*******	š	4400 740	907